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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/584,870

06/08/2007

Noel R.M. de Keyzer

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KRATON POLYMERS U.S. LLC
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EXAMINER

SCOTT, ANGELA C

ART UNIT

PAPER NUMBER

1767

NOTIFICATION DATE

DELIVERY MODE

08/19/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

kratonip@kraton.com

Office Action Summary	Application No. 10/584,870	Applicant(s) DE KEYZER ET AL.	
	Examiner Angela C. Scott	Art Unit 1767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 13, 2011 has been entered.

No claims have been amended or canceled since the last response. Claims 11-29 are pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11-25 rejected under 35 U.S.C. 103(a) as being unpatentable over de Keyzer et al. (WO 02/057386).

de Keyzer et al. teaches an adhesive composition for pressure sensitive adhesives, packaging tapes and labels, and multipurpose hot-melt adhesives (Page 1, lines 10-15) comprising a block copolymer, a mixed aliphatic/aromatic hydrocarbon resin, and a plasticizing oil (Page 3, lines 25-27). In Tables 1 and 2, Polymer E exemplifies the block copolymer as a styrene-butadiene/isoprene(B/I)-styrene copolymer with a (B/I) ratio of 1:1 (50/50), a polystyrene content of 17.6%, and a coupling efficiency of 87%. The block copolymer preferably has a weight average molecular weight ranging from 100,000 to 500,000, preferably from 150,000 to 250,000 (Page 5, lines 21-25). The block copolymer preferably contain 1,2-vinyl bonds and/or 3,4-vinyl bonds in a proportion of at most 15 weight percent, based on the weight of the conjugated diene (Page 5, lines 25-30). Table 12, example F30 shows Polymer E combined with WINGTACK ET as the hydrocarbon resin and C-956 as the plasticizing oil. WINGTACK ET is an aromatically modified aliphatic hydrocarbon resin with a softening point of 94° C, an aromaticity of 4.2% (Page 21, Table 3), and a glass transition temperature (midpoint) of 50° C (Technical Data Sheet). C-956 is a naphthenic oil which is a type of mineral oil (Page 22, Table 3). According to Example F30 in Table 12, the block copolymer is present in

Art Unit: 1767

an amount of 44% by weight, the resin is present in an amount of 48% by weight, and the oil is present in an amount of 7% by weight.

de Keyzer et al. does not teach that the coupling efficiency of the block copolymer is between 63% and 80%. However, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). MPEP 2144.05. From examples, de Keyzer et al. shows polymers which have a coupling efficiency in the range of 81% to 87%. While the claimed range, 63% to 80%, and the prior art range, 81% to 87%, do not overlap, they are close enough that, at the time of the invention, one skilled in the art would have found it obvious to use the polymers of de Keyzer et al. and would have been motivated to do so because one would have expected the polymers to have the same properties and behave similarly, especially when used in adhesive compositions.

While the specific example of Polymer E in Table 2 has a molecular weight of 195,000, which is outside of the narrow range of 180,000 to 190,000 and more specifically 180,000 to 185,000, the claimed range lies completely within the preferred range taught by de Keyzer et al. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). MPEP 2144.05. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use a polymer with a molecular weight in the range of 180,000 to 195,000, and more specifically of 180,000 to 185,000, and would have been motivated to do so because de Keyzer et al. teaches that this molecular weight range is suitable and preferable for use in the disclosed invention.

de Keyzer et al. does not disclose that the composition has a stable hot-melt viscosity of plus or minus 5% of the starting value after 24 hours at 177° C and a hot-melt viscosity of ≥ 80 Pa·s at 177° C. The Office realizes that all of the claimed effects or physical properties are not positively stated by the reference. However, the reference teaches all of the claimed ingredients and amounts, and a substantially similar process. Specifically, both composition contains similar block copolymers, a tackifying resin and mineral oil and are prepared through such means as a mechanically mixing process, a hot-melt process, or a solvent process (de Keyzer et al., page 10,

Art Unit: 1767

lines 15-30 and instant application ¶55 of the PG-PUB). Therefore, the claimed effects and physical properties, i.e. a stable hot-melt viscosity of plus or minus 5% of the starting value after 24 hours at 177° C and a hot-melt viscosity of ≥ 80 Pa·s at 177° C, would implicitly be achieved by resulting composition. If it is the applicant's position that this would not be the case: (1) evidence would need to be provided to support the applicant's position; and (2) it would be the Office's position that the application contains inadequate disclosure that there is no teaching as to how to obtain the claimed properties with only the claimed ingredients.

The transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, "consisting essentially of" will be construed as equivalent to "comprising." *See*, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of "consisting essentially of," applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). MPEP 2111.03.

Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over de Keyzer et al. (WO 02/057386).

de Keyzer et al. teaches an adhesive composition comprising a block copolymer (Page 3, lines 25-27). In Tables 1 and 2, Polymer E exemplifies the block copolymer as a styrene-butadiene/isoprene(B/I)-styrene copolymer with a (B/I) ratio of 1:1, a polystyrene content of 17.6%, and a coupling efficiency of 87%. The block copolymer preferably has a weight average molecular weight ranging from 100,000 to 500,000, preferably from 150,000 to 250,000 (Page 5, lines 21-25). The block copolymer preferably contain 1,2-vinyl bonds and/or 3,4-vinyl bonds in a proportion of at most 15 weight percent, based on the weight of the conjugated diene (Page 5, lines 25-30). According to Example F30 in Table 12, the block copolymer is present in an amount of 44% by weight.

Art Unit: 1767

de Keyzer et al. does not teach that the coupling efficiency of the block copolymer is between 63% and 80%. However, a *prima facie* case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). MPEP 2144.05. From examples, de Keyzer et al. shows polymers which have a coupling efficiency in the range of 81% to 87%. While the claimed range, 63% to 80%, and the prior art range, 81% to 87%, do not overlap, they are close enough that, at the time of the invention, one skilled in the art would have found it obvious to use the polymers of de Keyzer et al. and would have been motivated to do so because one would have expected the polymers to have the same properties and behave similarly, especially when used in adhesive compositions.

While the specific example of Polymer E in Table 2 has a molecular weight of 195,000, which is outside of the narrow range of 180,000 to 190,000 and more specifically 180,000 to 185,000, the claimed range lies completely within the preferred range taught by de Keyzer et al. In the case where the claimed ranges “overlap or lie inside ranges disclosed by the prior art” a *prima facie* case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990). MPEP 2144.05. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use a polymer with a molecular weight in the range of 180,000 to 195,000, and more specifically of 180,000 to 185,000, and would have been motivated to do so because de Keyzer et al. teaches that this molecular weight range is suitable and preferable for use in the disclosed invention.

The transitional phrase “consisting essentially of” limits the scope of a claim to the specified materials or steps “and those that do not materially affect the basic and novel characteristic(s)” of the claimed invention. *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). For the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, “consisting essentially of” will be construed as equivalent to “comprising.” See, e.g., PPG, 156 F.3d at 1355, 48 USPQ2d at 1355. If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of,” applicant has the burden of showing that the introduction of additional steps or

Art Unit: 1767

components would materially change the characteristics of applicant's invention. *In re De Lajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964). MPEP 2111.03.

Response to Arguments

Applicant's arguments filed July 13, 2011 have been fully considered but they are not persuasive.

Applicants argue that the Polymer E referred to in the rejection does not have a molecular weight within the claimed range. While this may be true, the reference teaches that the molecular weights of the polymers should be within a preferred range of 150,000 to 250,000 (Page 5, lines 21-25), which does encompass the claimed range. Applicants are reminded that a reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art, including non-preferred embodiments, i.e., the disclosure not just the examples. *Merck & Co. v. Biocraft Laboratories*, 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989). MPEP 2123. Additionally, as described above, a person of ordinary skill in the art would have found it obvious to use a polymer with a molecular weight in the range of 180,000 to 195,000, and more specifically of 180,000 to 185,000, and would have been motivated to do so because de Keyzer et al. teaches that this molecular weight range is suitable and preferable for use in the disclosed invention.

Regarding all of the data argued by the applicants, nowhere have the applicants shown a good side by side comparison of polymers with a coupling efficiency in the claimed range (63 to 80%) as compared to those polymers with a coupling efficiency as taught by de Keyzer et al. (81 to 87%). This is the crux of the rejection of record. The Office contends that the two ranges of coupling efficiency of the polymers are close enough that one of ordinary skill in the art would expect them to behave similarly. The claimed range has a maximum of 80% and the reference has a minimum of 81%. There is not sufficient, proper evidence on the record that a polymer with a coupling efficiency of 80% would behave differently than the same polymer with a coupling efficiency of 81%. This is the evidence that needs to be presented.

Additionally, when discussing the examples of the reference and the instant application, the applicants make remarks of "would likely also have an increase" or "may very well have a

Art Unit: 1767

negative effect." These remarks are conclusory statements which are not supported by any actual evidence. They are simply remarks of attorney argument.

As for the present invention having a "consisting of" and not "comprising" transitional phrase, this is not true. The current claims are "consisting essentially of" which, as explained in previous responses and above, is treated as "comprising" absent clear evidence on the record that a component negatively affects the basic and novel characteristics of the invention. This evidence has not been presented, especially in regards to Irganox 1010, which applicants argue "may very well have a negative effect upon the hot-melt viscosity after 24 hours at 177° C." Moreover, it would seem that this evidence would be difficult to present considering that the instant specification states that antioxidants such as Irganox 1010 may be used in the composition (PG-PUB, ¶54)..

Additionally, applicants state in the remarks at the bottom of page 10 and top of page 11, while pointing out that de Keyzer is an inventor of the prior art composition and the instant invention, that "it wasn't at all obvious to De Keyzer that the formulations set forth in his earlier patent application would be suitable for hot-melt adhesives." However, on page 1, lines 5-15 of de Keyzer et al., it states that the adhesive compositions are used as hot-melt adhesives. It seems that it was indeed obvious to the inventor that the prior art invention that it was suitable for hot-melt adhesives.

In conclusion, the de Keyzer et al. reference teaches all of the claimed components and ranges except for the coupling efficiency. It has been stated that the claimed range and the taught range as so close as to expect the polymers to have similar properties. Therefore, the claimed properties would therefore be met by having a polymer with the claimed ranges and components. Since the claimed ranges and components are taught in the de Keyzer et al. reference, aside from the coupling efficiency, it follows that unless the coupling efficiency is shown to cause the polymers to behave differently and unexpectedly, the invention is obvious from the de Keyzer et al. reference.

Art Unit: 1767

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela C. Scott whose telephone number is (571)270-3303. The examiner can normally be reached on Monday through Friday, 8:00 am to 5:00 pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Liam J Heincer/
Primary Examiner, Art Unit 1767

/A. C. S./
Examiner, Art Unit 1767
August 9, 2011